

Table A-20. Total (Federal plus company and other) funds for industrial R&D performance in the U.S. as a percent of net sales of companies that performed industrial R&D in the U.S., by industry and by size of company: 1997-99

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Industry and size of company		NAICS codes	1997 <sup>1</sup>	1998 <sup>1</sup>	1999
			[Percent]		
Distribution by industry:					
All industries.....	21-23, 31-33, 42, 44-81		3.4	3.6	3.1
Manufacturing.....	31-33		--	--	3.7
Food.....	311		0.4	0.4	0.4
Beverage and tobacco products.....	312		0.8	0.6	(D)
Textiles, apparel, and leather.....	313-16		0.8	0.9	0.7
Wood products.....	321		0.4	0.4	0.5
Paper, printing and support activities.....	322, 323		(D)	(D)	(D)
Petroleum and coal products.....	324		(D)	0.8	0.4
Chemicals.....	325		5.5	6.3	5.2
Basic chemicals.....	3251		2.6	4.9	2.1
Resin, synthetic rubber, fibers, and filament.....	3252		(D)	(D)	(D)
Pharmaceuticals and medicines.....	3254		(D)	(D)	(D)
Other chemicals.....	325 (minus 3251-52, 3254)		(D)	(D)	(D)
Plastics and rubber products.....	326		1.3	2.0	1.9
Nonmetallic mineral products.....	327		1.9	1.3	(D)
Primary metals.....	331		0.8	(D)	0.4
Fabricated metal products.....	332		1.7	1.5	1.5
Machinery.....	333		3.2	(D)	3.5
Computer and electronic products.....	334		9.1	9.6	10.3
Computers and peripheral equipment.....	3341		(D)	(D)	(D)
Communications equipment.....	3342		7.3	10.5	12.0
Semiconductor and other electronic components.....	3344		(D)	8.7	8.3
Navigational, measuring, electromedical, and control instruments.....	3345		12.4	13.6	15.2
Other computer and electronic products.....	334 (minus 3341-42, 3344-45)		4.0	(D)	(D)
Electrical equipment, appliances, and components.....	335		3.1	2.9	(D)
Transportation equipment.....	336		5.6	3.6	4.2
Motor vehicles, trailers, and parts.....	3361-63		(D)	(D)	(D)
Aerospace products and parts.....	3364		8.4	7.2	8.8
Other transportation equipment.....	336 (minus 3361-64)		(D)	(D)	(D)
Furniture and related products.....	337		0.9	0.9	0.7
Miscellaneous manufacturing.....	339		5.9	(D)	5.7
Medical equipment and supplies.....	3391		8.4	(D)	(D)
Other miscellaneous manufacturing.....	339 (minus 3391)		1.8	2.4	(D)
Other manufacturing <sup>2</sup> .....	31-33 (minus 311-16, 321-27, 331-37, 339)	(S)	0.7	(D)	--
Small manufacturing companies <sup>3</sup> .....	Fewer than 50 employees		4.2	4.4	10.0

See explanatory information and SOURCE at end of table.

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Industry and size of company	NAICS codes	1997 <sup>1</sup>	1998 <sup>1</sup>	1999
		[Percent]		
Distribution by industry:				
Nonmanufacturing.....	21-23, 42, 44-81	--	--	2.4
Mining, extraction, and support activities.....	21	(D)	(D)	(D)
Utilities.....	22	(D)	(D)	0.1
Construction.....	23	1.7	(D)	3.1
Trade.....	42, 44, 45	(D)	4.9	5.5
Transportation and warehousing.....	48, 49	(D)	0.3	0.5
Information.....	51	2.8	4.6	3.6
Publishing.....	511	11.6	13.3	13.4
Newspaper, periodical, book, and database.....	5111	1.2	1.3	2.0
Software.....	5112	19.3	20.0	16.8
Broadcasting and telecommunications.....	513	(D)	(D)	(D)
Radio and television broadcasting.....	5131	(D)	(D)	(D)
Telecommunications.....	5133	(D)	(D)	(D)
Other broadcasting and telecommunications.....	513 (minus 5131, 5133)	(D)	(D)	(D)
Other information.....	51 (minus 511, 513)	(D)	(D)	(D)
Finance, insurance, and real estate.....	52, 53	(D)	(D)	(D)
Professional, scientific, and technical services.....	54	14.4	15.5	15.3
Architectural, engineering, and related services.....	5413	6.4	9.5	10.1
Computer systems design and related services.....	5415	(D)	(D)	(D)
Scientific R&D services.....	5417	57.6	57.2	45.3
Other professional, scientific, and technical services.....	54 (minus 5413, 5415, 5417)	(D)	(D)	(D)
Management of companies and enterprises.....	55	(D)	28.5	(D)
Health care services.....	621-23	5.2	4.8	6.5
Other nonmanufacturing.....	56, 61, 624, 71, 72, 81	0.8	2.2	(D)
Small nonmanufacturing companies <sup>3</sup> .....	Fewer than 15 employees	(D)	19.8	15.1

See explanatory information and SOURCE at end of table.

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Industry and size of company		1997 <sup>1</sup>	1998 <sup>1</sup>	1999
		[Percent]		
Distribution by size of company: [Number of employees]				
Total.....		3.4	3.6	3.1
5 to 24 .....		11.1	9.8	18.2
25 to 49.....		8.4	9.1	11.5
50 to 99.....		8.7	8.9	14.2
100 to 249.....		5.4	9.2	7.6
250 to 499.....		4.6	6.0	6.3
500 to 999.....		3.0	3.2	4.4
1,000 to 4,999.....		2.7	3.1	3.2
5,000 to 9,999.....		2.5	1.9	2.6
10,000 to 24,999.....		2.6	2.8	2.8
25,000 or more.....		3.9	4.1	2.5

<sup>1</sup> The totals for "all industries" prior to 1999 are identical to corresponding totals previously published using the Standard Industrial Classification (SIC) system. Detail published using the North American Industry Classification System (NAICS) may not add to the totals.

See the 'NOTES' below.

Manufacturing companies in the 1997 and 1998 samples that could not be classified with a NAICS code are included in "Other manufacturing"; nonmanufacturing companies that could not be classified with a NAICS code are included in "Other nonmanufacturing."

The frame from which the statistical sample was selected was divided into two partitions based on total company employment. In the manufacturing sector, companies with employment of 50 or more were included in the large company partition. In the nonmanufacturing sector, companies with employment of 15 or more were included in the large company partition. Companies in the respective sectors with employment below these values, but with at least 5 employees, were included in the small company partition. The purpose of partitioning the sample this way was to reduce the variability in industry estimates largely attributed to the random year-to-year selection of small companies by industry and the high sampling weights that sometimes were assigned to them. Because of this, detailed industry statistics were possible only from the large company partition; detailed industry statistics from the small company partition were not possible. Statistics from the small company partition are shown separately and are included in manufacturing, nonmanufacturing, and all industries totals. For more detailed information, please see "frame creation" and "sample selection" in Section B.

**KEY:** (D) = Data have been withheld to avoid disclosing operations of individual companies.

(S) = Indicates imputation of more than 50 percent.

-- = Indicates data not collected.

**NOTES:** Starting with the 1999 survey, estimates are based on the North American Industry Classification System (NAICS). In prior years, estimates were based on the Standard Industrial Classification (SIC) system. For this table, companies in the 1997 and 1998 surveys were assigned NAICS industry codes based on their SIC industry codes. Consequently, the estimates for 1997 and 1998 in this table are not necessarily representative of the NAICS categories of industries in those years. They are included for comparison purposes only.

**SOURCE:** National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 1999